# EPA Region 5 Records Ctr. 298303

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Re: The Peoples Gas Light and Coke Company

North Shore Gas Company Site Summary Packages

Dear Mr. Felitti:

Attached are site summaries for the Peoples Gas and North Shore Gas sites. The Peoples Gas package first describes the three sites for which we have submitted scoring packages to Ms. Ripley, and the rest of the sites are otherwise arranged alphabetically.

Please contact Stephen Armstrong or me directly at your earliest convenience to discuss any questions or concerns you may have regarding these site summaries, or if I can be of any further assistance in preparing a draft order. Thank you.

Sincerely.

Jon P. Sanders

cc: Stephen Armstrong (w/o enclosures)

# North Shore Gas Company Site Summaries

#### 1. North Plant Former MGP Site

#### Location and Current Use

The North Plant Former MGP Site (the "Site") is located at 849 Pershing Road at the southeast quadrant of the intersection of Pershing and Dahringer Roads in Section 15, Township 45 North, Range 12 East, Lake County in the City of Waukegan, Illinois. The Site currently encompasses approximately 16 acres and is vacant with the exception of some concrete foundations. Although ownership of the property that constitutes the former North Plant MGP has changed over time, the northern portion of the former MGP property is currently owned by North Shore Gas Company ("North Shore Gas"). North Shore Gas transferred ownership of the entire MGP property to the City of Waukegan in 1975, and the City sold the northern portion of the property to the North Shore Sanitary District ("NSSD") in 1982. North Shore Gas re-purchased this northern portion of the property from NSSD in 2002. The small parcel on the southern portion of the property owned by North Shore Gas during the MGP operating period is currently owned and used by the City of Waukegan as a burning and composting area. MGP operations were not conducted on this parcel. The property south of the City of Waukegan property is occupied by the A. L. Hansen Manufacturing Company. Pershing Road borders the Site to the west and the Elgin, Joliet & Eastern ("EJ&E") Railway tracks are located along the eastern border of the Site. The NSSD sewage treatment plant and retention basins are located on the property east of the EJ&E track. This property was formerly used as a landfill owned by Abbott Laboratories. The wooded properties to the north and northeast were previously occupied by the Greiss-Pfleger Tanning Company. Small areas of wetlands are present at the southwestern and northeastern corners of the Site, as well as along the eastern Site border. The Site and surrounding areas are currently zoned for light industrial/commercial purposes. The City of Waukegan's Lakefront-Downtown Master Plan (2003) and Design Guidelines (2005) show the Site as being located in a future open space recreational area.

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#### **History and Former Operations**

The North Plant MGP was constructed in 1912 as a gas production and storage facility. Prior to its excavation in 1992, a tar pond (the "Waukegan Tar Pit") was located to the northeast of the Site. The facility was operated by North Shore Gas as a manufactured gas plant and storage facility between 1912 and 1953. Gas was manufactured via coal carbonization (1912–1927), water gas (1927–1951), and oil gas (1951–1953) processes. From 1953 to 1965, the facility provided a propane-air supplement to natural gas suppliers. The facility eventually included twelve retorts, a water gas generator, gas purification equipment including oxide boxes, and two gas holders (200,000 cubic feet and 1.5 million cubic feet in size). Underground MGP structures included a tar well and tar separator below the 200,000-cubic foot gas holder. Aboveground MGP structures included: propane, oil, tar, and other storage tanks; coke bins; and a coke pile. Gas production at the plant ended before the aboveground MGP structures were dismantled and removed in 1966 and 1968. Documents indicate potential contamination and migration of contaminants during plant demolition activities, including the rupture of a relief holder which released 400,000 gallons of water, tar emulsion, and tar to the soil.

#### **Groundwater Characteristics**

Groundwater is encountered at 4.5 to 7 feet below ground surface ("bgs"). Lake Michigan is the source of drinking water in the Waukegan area, and the water supply intake is approximately two miles southeast of the Site. The general direction of groundwater flow at the Site is to the east, but the influence of the retention basins and dewatering wells on the adjacent NSSD property causes the groundwater flow direction to vary. Underground piping associated with the former MGP operations and sewer lines presents potential migration pathways; tar has been found in some of these lines at a distance of over 300 feet from the point of origin. Chemicals detected in groundwater samples collected during investigations at the Site include VOCs (primarily BTEX and chlorinated solvent compounds), SVOCs (primarily PAHs and phenols), metals, and cyanide.

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#### **Soil Characteristics**

The uppermost layer of soil at the Site is miscellaneous fill material composed of sand, gravel and clinker. Gypsum was also encountered in one area. Between 0.5 to 1.5 feet of native peat was encountered immediately below the fill materials, with fine to medium sand underlying the peat layer to 22 feet bgs. Below these sands is a very stiff to hard silty clay till. The permeability of the peat layer is fairly high. Impacted soils were found as early as 1968 during plant closure activities when free tar removal efforts were conducted at an on-site ditch. Later, stained soils with strong odors and heavy oil sheens were observed during site investigations. Although the Waukegan Tar Pit was excavated in 1992, tar impacts were observed well beyond the limits of the excavation; the volume of soil containing tar and tarry residues in areas surrounding the former Waukegan Tar Pit was estimated at 67,400 cubic yards. Evidence of chlorinated solvents, free phase coal tar, and oily hydrocarbons has been observed in soil samples collected at the Site. The contaminants found in soil samples collected during site investigations include VOCs, SVOCs (including PAHs), metals, and cyanide.

#### **Sediment Characteristics**

Sediments in the on-site wetlands have not been sampled in recent years. Off-site surface water bodies near the Site include North Ditch (approximately 800 feet east-southeast of the Site), Waukegan Harbor (approximately 2,500 feet southeast of the Site), and Lake Michigan (approximately 3,000 feet east of the Site). A CERCLA Preliminary Assessment Report for the Waukegan Tar Pit prepared by Illinois EPA in 1992 indicates that site drainage patterns suggest a probable point of entry to surface water at the north end of Waukegan Harbor. Sediments were dredged from Waukegan Harbor in the early 1990s to address PCB contamination associated with the Outboard Marine Corporation ("OMC") Superfund site. Sediments in the harbor were sampled in 2005 to determine current levels of PCBs; some samples were also analyzed for asbestos and total organic carbon ("TOC"). Boring logs indicate that some of the sediments contained organics. A sediment toxicity study performed by the USGS determined that although the levels of

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PCBs have been reduced, the harbor sediments still exhibit sublethal effects associated with elevated concentrations of metals, PCBs, and PAHs.

#### Investigations and Remediation Previously Performed

Free tar removal efforts were performed at a ditch located on the Site during the initial plant closing in 1968; 25,000 tons of tar was removed at this time. North Shore Gas performed removal activities to address impacted material at the Waukegan Tar Pit under an Administrative Order issued by the U.S. EPA in 1992. Visible free-phase tar was excavated, and the excavated area was covered with a high-density polyethylene ("HDPE") cover. Additional site characterization at the tar pit was conducted in 1995, and soil and groundwater sampling was conducted in other portions of the Site in 2002 and 2004. Tar-impacted materials were identified in several areas, including: the northeast portion near the Waukegan Tar Pit; the eastern and southeastern portions along the EJ&E railroad tracks; the northwest portion near the former aboveground gas holder and generator house; the center portion near the former purifying house and coke bins; and the southwest portion near a former tar pit structure. These areas have not been remediated, and the extent of off-site impacts (to the east) has not been determined.

#### 2. South Plant Former MGP Site

#### **Location and Current Use**

The South Plant Former MGP Site (the "Site") is located at 2 North Pershing Road and 1 South Pershing Road in Section 22, Township 45 North, Range 12 East in the City of Waukegan, Lake County, Illinois. The Site (approximately 1.9 acres) is bounded to the north by the City of Waukegan Metra Train Station parking lot, to the west by the Union Pacific Railroad yard and to the south and east by the Elgin, Joliet and Eastern ("EJ&E") Railway line. Immediately east of the EJ&E Railway line are properties owned by the Waukegan Port District and Akzo Nobel. The Site, which is owned by North Shore Gas (except for Pershing Road, which traverses the middle of the Site and which is owned and maintained by the City of Waukegan), is located in an industrial/commercial area and is

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currently vacant, with sparse vegetation and remnants of former buildings covering the surface. The City of Waukegan's Lakefront-Downtown Master Plan (2003) and Design Guidelines (2005) show the Site as being located in a future open space recreational area.

#### **History and Former Operations**

The facility was constructed in 1897 by the Waukegan Pipeline Service Company and purchased by North Shore Gas in 1900. The plant was operational from 1898 to 1946 except for a stoppage from 1927 to 1935, and was razed in 1951. On-site features included a coal gas condensing building, a purifying building, a generator building and a laboratory. Four tar wells and five storage tanks, three for gas and two for oil, were also located on-site.

#### **Groundwater Characteristics**

Groundwater is encountered at 7 to 10 feet below ground surface ("bgs") and flows east toward Lake Michigan. Public water in the area is obtained from Lake Michigan (the water intakes for the City of Waukegan are approximately 5,000 feet southeast of the Site) and no private potable wells are located within the vicinity of the Site. Groundwater samples collected at the Site from 2001 to 2003 and on adjacent properties from 2003 to 2005 contained VOCs (primarily BTEX), SVOCs (primarily PAHs), cyanide, and metals. Visible hydrocarbons were observed at or below the water table both on-site and on the adjacent Waukegan Port District and Akzo Nobel properties to the east. Free-phase tar has been measured at thicknesses up to 1.5 feet in wells on the Site and at thicknesses of more than 5 feet in wells 560 feet down-gradient of the Site on the Waukegan Port District property and within 160 feet of Waukegan Harbor. Tar is being recovered from monitoring and recovery wells located on-site and on the Port District property.

#### Soil Characteristics

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The uppermost portion of soil on-site, up to 4 feet bgs, is composed of sandy fill and debris from former Site operations. At 4 to 9 feet bgs, fine to medium sand and silt is encountered, underlain by fine medium sand at 9 to 12 feet bgs. A clay unit is encountered at 14 to 20 feet bgs. These soils (glacial drift) are underlain by Silurian Dolomite bedrock. Numerous on-site borings have encountered visible soil impacts from former Site operations. Strong odors, a visible sheen, and soils saturated or coated with tar or DNAPL have been observed both on-site and on the adjacent Waukegan Port District and Akzo Nobel properties to the east. VOCs (primarily BTEX), SVOCs (primarily PAHs), cyanide, and metals have been detected in soils on the Site and the adjacent properties.

#### **Sediment Characteristics**

Information regarding current sediment characteristics is limited. Sediments were dredged from Waukegan Harbor in the early 1990s to address PCB contamination associated with the Outboard Marine Corporation ("OMC") Superfund site. Sediments in the harbor were sampled in 2005 to determine current levels of PCBs; some samples were also analyzed for asbestos and total organic carbon ("TOC"). Boring logs indicate that some of the sediments contained organics. A sediment toxicity study performed by the USGS determined that although the levels of PCBs have been reduced, the harbor sediments still exhibit sublethal effects associated with elevated concentrations of metals, PCBs, and PAHs.

#### **Investigations and Remediation Previously Performed**

Numerous site investigation reports have been produced for the Site and/or for the surrounding properties dating from 1991 through 2005. These investigations include a CERCLA Screening Site Inspection ("SSI") performed by the Illinois EPA. The 1993 SSI report recommends assigning the Site a medium priority status. Limited soil remediation was conducted at the Site in December 2003 through February 2004 by excavation and off-site disposal of impacted soils located above the water table.

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Approximately 19,250 tons of impacted soils were removed from the Site and backfill was imported to replace the excavated soil. A plastic liner was placed at the water table elevation to protect the imported backfill from potential contamination. This remediation effort did not address impacted soils located beneath the water table and did not include excavation of all impacted soils identified above the water table, but rather focused on those soils exhibiting the greatest degree of impacts. No soil remediation activities have been conducted at the adjacent Port District and Akzo Nobel properties. Recovery of free-phase tar is currently being conducted at the Site and on the Port District property.

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# The Peoples Gas Light and Coke Company Site Summaries

### 1. 22<sup>nd</sup> Street Station Former MGP Site

#### **Location and Current Use**

The 22<sup>nd</sup> Street Station Former MGP Site (the "Site") is located at 2200 South Racine Avenue in Section 29, Township 39 North, Range 14 East in the West Township of the City of Chicago, Illinois. The Site, which is 7.2 acres in size, is bounded to the west by commercial property, to the north by Cermak Road followed by mixed residential and commercial properties, to the east by an electrical substation owned by Commonwealth Edison, and to the south by the South Branch of the Chicago River. Throop's Canal and Allen's Canal previously bordered the Site to the west and the southeast, respectively; both canals have been filled in. The Site is no longer owned by The Peoples Gas Light and Coke Company ("Peoples Gas"). It is comprised of four parcels, which are currently owned and/or operated by Commonwealth Edison, GRM, Supercartage, and Midwest Generation LLC.

#### **History and Former Operations**

The Site was initially developed by Peoples Gas in 1862 to produce coal gas. The above-ground structures associated with the MGP included four gas holders with capacities of 4.2 million cubic feet, 450,000 cubic feet, 290,000 cubic feet, and 200,000 cubic feet. Beginning in 1922 the MGP was used as a peaking unit to produce gas only when customer demand was high. The MGP was modified to produce carbureted water gas and oil gas in 1934. Some of the MGP facilities were retired in 1938, and in 1944 two production sets were modified to produce reformed natural gas. Peoples Gas began leasing portions of the Site to Commonwealth Edison in 1931 and sold the last portion of the Site to Commonwealth Edison in 1959. The MGP stopped operating in 1958 and the entire plant was dismantled by 1960.

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#### **Groundwater Characteristics**

Groundwater has been reported at depths ranging from 1.2 to 7.5 feet below ground surface ("bgs") in monitoring wells installed in the permeable silty sand unit at the Site. The direction of shallow groundwater flow is to the southwest, toward the former Throop's Canal (which was filled with high permeability materials that are visibly impacted by MGP contaminants) and the South Branch of the Chicago River. Various VOCs, SVOCs, metals, and cyanide were detected in groundwater samples collected at the Site in 2001.

#### **Soil Characteristics**

The surface soil at the Site is fill material composed primarily of gravel and sand with smaller amounts of silt, clay, brick, cinders, glass, and wood. The fill is underlain at depths ranging from 3.5 to 9 feet bgs by a silty sand unit that consists of fine-grained sand with silt and trace amounts of gravel and clay. This unit is absent in areas where the fill extends to greater depths (up to 24 feet bgs in and near the historical MGP structures). The silty sand is underlain by a silty clay unit that is typically found at 7 to 9 feet bgs and has a thickness of 20 feet or more. The silty clay contains sand and trace amounts of gravel. Coal tar, free product, staining, and odors were observed at various locations during site investigations, and sheens were observed in borings installed in the fill in the former Throop's Canal (on property adjacent to the Site). Metals (arsenic, chromium, lead, silver, and selenium), BTEX, and a number of PAHs were detected at concentrations exceeding the Illinois Tier 1 screening levels in soil samples collected at the Site.

#### **Sediment Characteristics**

Sediment samples were collected from a location in the South Branch about 2,000 feet downstream of the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported

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concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

#### **Investigations and Remediation Previously Performed**

A CERCLA preliminary assessment of the Site was conducted by the Illinois EPA in 1988; further investigation was recommended. Site investigations were performed on behalf of Peoples Gas between 2000 and 2002. A Remedial Objectives Report developed for the Site during this period recommended removal of impacted material from a number of on-site locations. Burns and McDonnell prepared a Supplemental Site Investigation Report for Event 3 in November 2005. In April 2006, Burns and McDonnell began remediation activities in a portion of the Site. Impacted material in the east gas holder has been excavated and removed to a depth of approximately 20 feet bgs. Impacted material in portions of the former Throop's Canal have been excavated and removed to a depth of approximately 30 feet bgs. Remediation of the Site by excavation and off-site disposal of impacted materials is continuing.

#### 2. North Station Former MGP Site

#### **Location and Current Use**

The North Station Former MGP Site (the "Site") is located in the area bounded by North Crosby, West Division, and West Hobbie Streets and the North Branch Canal (part of the Chicago River system) in Section 4, Township 39 North, Range 14 East in Chicago, Illinois. Land use near the Site is mixed residential and industrial/commercial. The former MGP site consists of three parcels totaling approximately 8 acres. One of the parcels (adjacent to the canal and approximately 1.5 acres in size) is currently owned by Ned Dikman. This parcel, which is referred to as the LaSalle Chestnut property, is currently vacant. Another parcel (approximately 5.5 acres) is currently owned by Commonwealth Edison and contains an electrical substation and associated buildings and towers. The third parcel (north of the LaSalle Chestnut property and less than 1 acre in

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size) is currently owned by Division Halsted LLC. This property is currently used as a storage yard for construction equipment.

#### **History and Former Operations**

The Chicago Gas Light and Coke Company built this facility in 1868 for the production of coal gas. In 1887, production was converted to water gas. The MGP facility was closed in the early 1960s. The primary MGP structures included a 1.5 million cubic foot gas holder, two 500,000 cubic foot relief holders, and a 750,000-gallon oil tank as well as underground oil tanks, tar settling wells, a tar tank, a naphtha tank, tar extractors, oil condensers, pumps and scrubbers, an ash hopper, and various buildings. The parcel adjacent to the North Branch Canal (currently owned by Ned Dikman) was used for coal storage.

#### **Groundwater Characteristics**

Groundwater has been detected at depths ranging from 3 to 11.5 feet below ground surface ("bgs") at the Site. The direction of shallow groundwater flow appears to be west/southwest towards the canal. Groundwater samples collected in 2002 contained cyanide, BTEX, and PAHs at concentrations above Illinois Tier 1 screening levels.

#### **Soil Characteristics**

The surface soil at the Site is fill material composed primarily of gravel and sand with smaller amounts of silt, clay, brick, cinders, glass, and wood. The fill is underlain by native soils at depths ranging from 7 to 12 feet bgs. The native soils consist of brown/gray clay with silt and trace amounts of gravel, and are at least 20 feet thick. Subsurface investigations at the Site have been limited by the presence of a variety of underground utility features. Coal tar impacts (free product, saturated soils, strong odors, and staining) have been observed at various locations during Site investigations. Metals (arsenic, chromium, lead, silver, and selenium), BTEX, PAHs (including naphthalene, benzo(a)pyrene, benzo(a)anthracene, benzo(a)fluoranthene, and dibenzo(a,h)anthracene),

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and other SVOCs were detected in soil samples at concentrations exceeding the Illinois Tier 1 screening levels.

#### **Sediment Characteristics**

Sediment samples were collected from a location in the North Branch Canal adjacent to the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

#### **Investigations and Remediation Previously Performed**

A preliminary site investigation was performed on behalf of The Peoples Gas Light and Coke Company ("Peoples Gas") in 1999 and additional investigations were performed in 2001, 2005, and 2006. Additionally, investigations were conducted in the right-of-way around the Commonwealth Edison property in 2001 and 2002. Remediation activities conducted to date on the Commonwealth Edison property have involved limited removal of foundations, a buried tank and piping, and approximately 1,100 cubic yards of impacted soil. Remediation activities are currently being conducted on the LaSalle Chestnut parcel, the portion of the Site that is closest to the North Branch Canal. Impacted materials are being excavated to depths of up to 10 feet bgs and disposed of offsite.

#### 3. Division Street Station Former MGP Site

#### Location and Current Use

The Division Street Station Former MGP Site (the "Site") is located at 1241 West Division Street, in Section 5, Township 30 North, Range 14 East, Cook County in the City of Chicago, IL. The Site currently encompasses approximately 15 acres and is

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bounded to the north by West Division Street, to the south by West Cortez Street, to the west by the Union Pacific Railroad, and to the east and northeast by the North Branch of the Chicago River. The portion of the Site east of Elston Avenue (adjacent to the North Branch of the Chicago River) is now owned by the City of Chicago and the owner and operator of a bar; during MGP operations, this property was used for coal and coke storage. The portion of the Site west of Elston Avenue is currently in use by The Peoples Gas Light and Coke Company ("Peoples Gas") as a Utility Service Center and includes a meter testing and repair shop in the main building, a maintenance building, warehouse and storage buildings, material storage bins, office buildings, one 12,000-gallon gasoline underground storage tank ("UST"), and one 12,000-gallon diesel fuel UST. The Site and the surrounding area are zoned for commercial and industrial uses, and the properties adjoining the Site are used for commercial purposes. The nearest residential properties are one block south of the Site.

#### **History and Former Operations**

The Division Street Station MGP was constructed in 1883 as a gas production and storage facility. This was the first MGP in Chicago built exclusively for the production of water gas. The facility eventually included four gas holders ranging in size from 500,000 to 10 million cubic feet. Underground MGP structures included storage tanks, oil tanks, tar tanks, and tar settling tanks. Aboveground MGP structures included condensers, shaving scrubbers, oil tanks, and light oil washers. Gas production at the plant ended before the aboveground MGP structures were dismantled and removed in 1962.

#### **Groundwater Characteristics**

Groundwater is encountered at 3 to 8 feet below ground surface ("bgs"). The general direction of groundwater flow at the Site is east toward the North Branch of the Chicago River. Chemicals detected in groundwater samples collected during investigations at the Site include VOCs (primarily BTEX), SVOCs (primarily PAHs), metals (including arsenic and barium), and cyanide.

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#### **Soil Characteristics**

The uppermost layer of soil at the Site is miscellaneous fill material composed of fine sand to silty clay with cinders, brick, and other non-native material. Although fill has been found at depths of up to 44 feet bgs in the former gas holder locations, native soils are typically encountered at depths of about 9 feet bgs. These native soils are undifferentiated glacial deposits characterized as sandy lean clay with trace amounts of gravel. The native soils extend to at least 27 feet bgs at some locations and are underlain by glacial drift over Silurian bedrock. The estimated total thickness of glacial deposits at the Site is 90 to 110 feet. The permeability of the glacial deposits is typically very low due to abundant silt and clay. Impacted soils were found as early as 1979 when excavation for an addition to the maintenance building led to the discovery of blackish clay soil with an observed inflow of oil into the excavation area. Later, stained soils with strong odors and heavy oil sheens were observed during site investigations. Samples collected in March 2002 from soil borings and a test trench showed evidence of free phase coal tar product and oily hydrocarbons. The contaminants found in soil samples at levels above screening levels during site investigations are primarily PAHs, including benzo(a)pyrene, benzo(a)anthracene, benzo(a)fluoranthene, and dibenzo(a,h)anthracene. Soil samples collected after the recent remediation (described below) exceeded the soil ingestion remediation objectives for PAHs, arsenic, and lead; in addition, the soil inhalation remediation objectives were exceeded for benzene and naphthalene.

#### **Sediment Characteristics**

Sediment samples were collected from a location in the North Branch of the Chicago River adjacent to the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

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#### **Investigations and Remediation Previously Performed**

Environmental conditions at the Site are described in site investigation reports dated 1992, 2002, and 2003. Remediation activities to address impacted materials were conducted in 2005. Areas on site were excavated to at least 3 feet bgs and backfill materials were brought in to replace the excavated materials. After backfilling, an engineered barrier was installed to prevent the further spread of contaminants. Approximately 164,000 tons of excavated material and over 1 million gallons of water associated with the excavation were disposed of as part of the remediation process. Post-remediation sampling data indicate that elevated levels of certain contaminants still exist on site, although barriers are in place to prevent direct contact exposures. In addition, impacted material was left in place between the gas holder wall and the railroad tracks where remediation was deemed impractical.

#### 4. Crawford Station Former MGP Site

#### Location and Current Use

The Crawford Station Former MGP Site (the "Site") is located at 3500 South Pulaski Road in Section 34, Township 39 North, Range 13 East in Chicago, Cook County, Illinois. The Site is bounded on the south by the Chicago Sanitary and Ship Canal (the "Canal"), on the north by the Chicago and Illinois Western Railroad, on the west by the Chicago and Western Indiana Belt Line Railroad, and to the east by Pulaski Road (formerly Crawford Avenue). The Site does not include the far northeast corner of this area (i.e., approximately 30 acres on the southwest corner of the intersection of Pulaski Road and the Chicago and Illinois Western Railroad), which is occupied by a warehousing and manufacturing facility apparently owned by Lincoln Property Co. Midwest Generation's Crawford Power Plant occupies the property east of Pulaski Road. The properties north of the Site (across the railroad tracks) are residential, and the property west of the Site is an industrial area containing an Exxon Mobil plant. The Site is currently divided into 21 parcels with various owners. Parcels A, B, L, and O are currently owned by The Peoples Gas Light and Coke Company ("Peoples Gas").

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Parcel O is currently used by Peoples Gas as a natural gas regulating and metering facility. Various commercial/industrial buildings and uncovered storage areas exist on the remainder of the Site. The total area of the Peoples Gas parcels is approximately 107 acres. Peoples Gas also leases a portion of Parcel S, which is adjacent to the Canal, from the Metropolitan Water Reclamation District of Greater Chicago ("MWRDGC").

#### **History and Former Operations**

In 1921, the Koppers Company of Pittsburgh and Peoples Gas entered into an agreement whereby Koppers built, financed, and operated a by-product coke plant at the Crawford Station. Peoples Gas bought the gas and coke manufactured at the plant for distribution to consumers. Peoples Gas then acquired the facility in 1928. The Site was Peoples' largest facility; it included 105 coke ovens (increased to 151 coke ovens between 1948 and 1950), 9 water gas sets, and two 10 million cubic foot gas holders. By the late 1930s, the Crawford Station produced three types of gas: coke oven gas, carbureted water gas, and reformed natural gas. During the 1930s, several additions and modifications were made to the plant, including construction of a light oil refining plant, addition of liquefied petroleum ("LP") gas peak shaving facilities, and conversion of five of the nine water gas sets to produce reformed natural gas and later oil gas. Two more water gas sets were modified to produce reformed natural gas in 1946. Forty LP tanks were installed in 1957. By 1956, the Crawford Station was used only as a peaking unit (supplying gas and coke only when demand was at a peak, usually during the winter months). Production was halted temporarily between 1958 and 1962 and permanently after 1963. The station was retired in 1965. Dismantling of the station began in 1956 starting with portions of the coke oven plant. The remainder of the station, including the two 10 million cubic feet gas holders, was dismantled in 1965. Peoples Gas sold 146 acres of the Site property to First American Realty Company in 1966.

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#### **Groundwater Characteristics**

Groundwater has been observed in a fill layer at depths of approximately 5 to 15 feet below ground surface ("bgs") during investigation of various parcels. Impacts were observed below the water table at depths of up to 26 feet bgs in various borings advanced in Parcels A, B, L, and O. These impacts include staining, odors, tar saturated soil, and tar in fractures. VOCs, PAHs, metals, and cyanide were detected in groundwater samples collected in various locations at the Site.

#### Soil Characteristics

Three soil units are present at the Site: an upper fill unit, a native brown to brown-gray silty clay unit (upper clay unit), and a native gray silty clay unit (lower clay unit). Based on results from investigations performed to date, the thickness of the fill layer ranges from 0 to 11 feet across the Site. The fill consists primarily of gravel and sand with smaller amounts of silt, clay, bricks, cinders, glass, and wood. Asphalt, where present, is 6 inches thick with up to 2 feet of gravel/sand sub-base. A layer of native brown to brown-gray silty clay underlies the fill, with a thickness of up to 14 feet. The lower (gray) silty clay unit that underlies the brown-gray silty clay unit is encountered at an average depth of 10 to 13 feet bgs. Evidence of impacts (described as tar, tar in fractures, tar-coated sand, naphthalene-type odor, and sheen) have been observed at depths of up to 26 feet bgs at various locations at the Site. VOCs, PAHs, metals, and cyanide were detected in soil samples collected in various locations at the Site.

#### **Sediment Characteristics**

No information has been found concerning sampling of sediments in the Canal adjacent to the Site. Sediment samples collected in the Chicago River system at locations both upstream and downstream of the Site contain high levels of PAHs, PCBs, oil and grease, and metals. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

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#### **Investigations and Remediation Previously Performed**

Burns and McDonnell conducted site investigations (on behalf of Peoples Gas) on Parcel O in 2001; on Parcels A and B in 2001 and 2005; and on Parcel L in 2002. Tar impacts were observed on all of these parcels. Approximately 45 cubic yards of impacted soils were removed and disposed of off-site in conjunction with gas pipeline improvements on Parcel O. Aside from this, the Peoples Gas parcels have not been remediated. Access to perform site investigations on the remaining parcels (except for Parcel S) has not yet been obtained. An investigation of Parcel S began in January 2007.

# 5. Hawthorne Avenue Former MGP Gas Storage Site Location and Current Use

The Hawthorne Avenue Former MGP Gas Storage Site (the "Site") is located on the northwest corner of the intersection of Marcey Street and Willow Street in Section 32, Township 40 North, Range 14 East in the City of Chicago, Cook County, Illinois. The Site, which is approximately 4.1 acres in size, is bounded on the northwest by Wisconsin Street (formerly Clay Street), on the southwest by Kingsbury Avenue (formerly Hawthorne Avenue, now a railroad right-of-way), on the southeast by Willow Street, and on the northeast by Marcey Street. The Peoples Gas Light and Coke Company ("Peoples Gas") currently owns approximately 0.43 acres of the larger former Gas Storage Site. This property is occupied by three small buildings that house the operations of the Hawthorne Regulator Station, a natural gas regulating station with intermittent maintenance activities. The northwestern portion of the Site is currently owned by Commonwealth Edison and used as a transformer station and equipment storage yard. The southeastern portion of the Site is currently owned by Marcey Properties, LLC ("Marcey") and used for retail purposes (Smith and Hawken and Sam's Wines and Spirits). The Marcey property includes approximately 1.6 acres of land that was formerly part of the Willow Street Station Former MGP site. Because of their common current ownership, the portion of the Willow Street Station Former MGP site located east of the railroad is addressed as part of the Hawthorne Avenue MGP site. The North Branch of

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the Chicago River is approximately 375 feet west of the Site. The Site is zoned for manufacturing and there are no residential properties in the immediate vicinity. Land use in the area surrounding the Site is primarily industrial and commercial.

#### **History and Former Operations**

The Ogden Gas Company constructed the Hawthorne Avenue Gas Storage Facility in 1905 for use as a manufactured gas distribution facility. The facility included a water-sealed 5 million cubic foot gas holder located at the corner of Wisconsin and Marcey, as well as a compression tank and a number of buildings (shop, boiler house, exhauster house, garage, chimney and pipe shed). Peoples Gas leased the property from Ogden Gas in 1907, gained control of portions of the company in 1913, and acquired the Ogden Gas Company's remaining assets when Ogden Gas dissolved in 1950. The Hawthorne Avenue gas holder was retired in 1958 and dismantled the following year. Peoples Gas began selling portions of the former Gas Storage Facility property in 1967. The Willow Street Station portion of the Site was occupied by a 2.5 million cubic foot gas holder from about 1911 to 1950.

#### **Groundwater Characteristics**

The depth to groundwater at the Site has not been determined. Groundwater was encountered at depths of 5 feet and 7 feet below ground surface ("bgs") in two soil borings installed in April 2003, but was not encountered in other borings installed during site investigation activities in 2002. The groundwater at the Site may be perched and seasonal, as reported for neighboring sites to the south and west. Groundwater movement in the shallow glacial aquifer is expected to be westward towards the North Branch of the Chicago River, but groundwater quality data are not available from on-site sampling locations.

#### **Soil Characteristics**

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The surface soil at the Site is fill material that consists primarily of clay, sand, and gravel with smaller amounts of coal, crushed brick, cinders, and wood chips. The fill is underlain by native soils at depths ranging from 5 to 22 feet bgs. The native soils consist of brown clay with gray mottling, with traces of sand and gravel and a silt layer reported at some locations. The estimated depth to bedrock (i.e., the total thickness of the glacial deposits) at the Site is 80 to 100 feet. Staining and odors were reported in soil borings advanced near and inside the footprint of the former gas holder; staining was observed primarily at depths of 7 to 10 feet bgs. Metals, VOCs, PCBs, and PAHs (including naphthalene, benzo(a)pyrene, benzo(a)anthracene, benzo(a)fluoranthene, and dibenzo(a,h)anthracene) were detected in soil samples collected during the 2002 site investigation. As noted below, soils in portions of the Site were remediated in 2003.

#### **Sediment Characteristics**

Sediment samples were collected from a location in the North Branch of the Chicago River approximately 1,500 feet downstream from the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

#### **Investigations and Remediation Previously Performed**

Site investigation activities were performed on the Hawthorne Regulator parcel in 2002, and remedial action was performed in 2003 and 2005 with the goal of meeting soil cleanup levels for industrial/commercial use. Remediation of this parcel involved excavation of all surface soils (0-3 feet bgs) at the Site, excavation of subsurface soil to depths of up to 8 feet bgs in two small areas, and installation and operation of a soil vapor extraction system. Impacted materials were identified visually during post-remediation soil sampling on this parcel. During excavation, a portion of the 5 million cubic foot gas

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holder wall was encountered extending out from the northwestern boundary of the Site. An engineered barrier was installed to cover the exposed portion of the gas holder. Conditions on the northwestern parcel, where the majority of the 5 million cubic foot gas holder is located, have not yet been investigated. Part of the southeastern parcel was remediated in 2003 in conjunction with remediation activities on the former Willow Street Station site. This remediation involved excavation of soils to a maximum depth of 12 feet bgs and off-site disposal of approximately 2,560 tons of impacted material. Residual tar-impacted materials were left in place at depths from 6 to 12 feet bgs and a plastic liner was installed before backfilling with flowable fill to prevent migration of tar into the remediated area.

### 6. Hough Place Station Former MGP Site

#### **Location and Current Use**

The Hough Place Station Former MGP Site (the "Site") is located at 2500 S. Corbett St. in Section 29, Township 39 North, Range 14 East, Cook County, Chicago, Illinois. The Site (approximately 4.5 acres) is bounded on the north by the South Branch of the Chicago River, on the south by railroad property, and on the east by a paper storage and distribution facility. The former Site and the adjacent property to the west are currently vacant but were formerly occupied by a sailboat storage, sales, and repair facility (Crowley's Yacht Yard). The land immediately adjacent to the former MGP site was created by filling in two former waterways (the Evans Slip to the west and the Hough Slip to the east). One wood frame commercial building occupies a portion of the Site; the remaining area is covered by concrete and gravel. Land use in the area surrounding the Site is primarily commercial and industrial.

#### **History and Former Operations**

The Hough Place Station facility was built in about 1885 by the Equitable Gas Light and Fuel Company. In approximately 1892, the facility began producing "Pintsch gas," a relatively high quality gas produced by an oil gas process, for the Pintsch Compressing

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Company. Production of Pintsch gas appears to have continued into the early 1920s. The Peoples Gas Light and Coke Company ("Peoples Gas") acquired the facility in 1897 after the passage of the Gas Consolidation Act of 1897. MGP structures formerly present at the Site include the following: a 50,000 cubic foot gas holder; a 5,000 cubic foot gas holder; a high-pressure gas holder; scrubbers; an oil house; tar boiling, generator, compressor, and purifier rooms; retorts; a pipe shop; two tar wells; an oil tower; three underground oil tanks; a storage building; a meter house; a testing laboratory; and a machine shop. The station was dismantled in 1934, and all aboveground gas plant structures were removed. Portions of the property were subsequently leased to other companies, who used the property for storage of building materials and for making asphalt, concrete, or other paving materials through at least 1950. Chicago Title and Trust Company, as trustee, took title to the property in approximately 1953. For some period of time between 1953 and 1978, the J.M. Corbett Company operated an asphalt mixing plant on the property. In 1978 the property was sold to Grant Crowley of Crowley's Yacht Yard.

#### **Groundwater Characteristics**

Shallow groundwater has been encountered at the site at depths between 3 and 11 feet below ground surface ("bgs"). Water level data suggest that the direction of shallow groundwater flow at the Site is primarily toward the former slips to the east and west, with a northern component toward the South Branch of the Chicago River. A retaining wall borders the river along the western portion of the north side of the Site; along the eastern portion, the river bank is composed of concrete riprap. BTEX, PAHs, metals, and cyanide were detected in groundwater samples collected at the site in 2000.

#### Soil Characteristics

The Site is underlain by fill material consisting of silty clay mixed with sand and gravel, cinders, slag, brick fragments, and other assorted debris. The fill ranges from approximately 4 feet thick in the south-central portion of the Site to over 12 feet thick in

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the former Hough Slip and Evans Slip areas. The underlying native soil is predominantly glacial drift, composed primarily of silty clay and sandy clay with discontinuous lenses of sand and silty sand. Weathered dolomite bedrock was encountered at approximately 48 feet below ground surface in one soil boring. Staining and odors have been observed in test pits and soil borings in various locations across the Site to depths below the water level. Black, plastic asphalt tar was observed to a depth of two feet bgs in a test pit located in the northwest corner of the Site. BTEX, PAHs, metals and cyanide were detected in several surface and subsurface soil samples at the Site.

#### **Sediment Characteristics**

Sediment samples were collected from a location in the South Branch about 5,000 feet downstream of the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

#### **Investigations and Remediation Previously Performed**

Several investigations at the Site have been conducted for Peoples Gas in recent years. A site investigation performed in 2000 included completion of test pits and soil borings and installation of shallow monitoring wells. Impacts were observed at various locations on the Site at depths below the water level. Soil samples were collected in June 2001 by as part of a supplemental site investigation. Several areas where tar was present at depths below the water table were identified. In September and October of 2006, a geotechnical investigation was conducted in order to design excavations necessary to remediate the Site. Soil borings advanced beyond the eastern Site boundary (in the location of the former Hough Slip) indicated that tar was present at depths below the water level in the filled-in slip. Remediation of the Site is currently under way; this effort involves excavation of impacted material to depths of up to 24 feet bgs and off-site disposal of the excavated materials.

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A limited investigation of the river area adjacent to the Site was conducted for Peoples in November 2006. Several borings were advanced into river sediments. Impacts in the form of sheens, odor, tar globules, tar-coated or stained material, and traces of tar were observed in some of the borings.

### 7. North Shore Avenue Station Former MGP Site

#### **Location and Current Use**

The North Shore Avenue Station Former MGP Site (the "Site") is located in the Rogers Park Township of Chicago, Cook County, Illinois. The Site occupies three parcels of land totaling approximately 10.2 acres in Section 36 of Township 41 North, Range 13 East. The Site is bounded to the north by recently-constructed single family homes, to the west by North Kedzie Avenue, to the south by residential properties, and to the east by North Whipple Street. The North Shore Channel (part of the Chicago River system) is approximately 350 feet west of the western property line. Two of the three parcels are currently owned by The Peoples Gas Light and Coke Company ("Peoples Gas"). The Main Parcel, which encompasses approximately 5.4 acres, is currently used as a natural gas regulator station (the "North District Sub-Shop") and as a vehicle maintenance shop and fueling facility for the north district of Chicago. The East Parcel, approximately 3 acres in size, is a vacant lot covered by vegetation and an unused paved entrance to the property. The remaining Pond Parcel, which is currently being developed as residential property, is approximately 1.8 acres in size.

#### **History and Former Operations**

Peoples Gas built the North Shore Avenue Station and began operating it as a storage facility for manufactured gas in 1926. A 15 million cubic foot tar-sealed gas holder located on the west side of the Site was used for storage of manufactured gas from the time the station began operations. Later, the holder was used to store natural gas and/or a combination of natural and manufactured gas. The gas holder was taken out of service in

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1956 for inspection and repairs. The gas holder sealant was changed from tar to oil at this time, and nearly 200,000 gallons of tar were removed from the Site. The gas holder and most of the tar tanks associated with it were removed in 1971, but additional underground tar tanks may have been left in place at this time. The main gas storage facility buildings are currently used for the sub-shop operations.

#### **Groundwater Characteristics**

Groundwater has been found in monitoring wells and borings at the Site at depths ranging from 4 to 12 feet below ground surface ("bgs"). The groundwater observed at these shallow depths appears to be present in a perched condition; no continuous aquifer was observed. The direction of shallow groundwater flow in the underlying glacial aquifer is expected to be westward toward the North Shore Channel. Chemicals detected in groundwater samples collected at the Site include barium, cyanide, and PAHs (naphthalene and fluorene). Deeper groundwater conditions at the Site have not been investigated.

#### **Soil Characteristics**

The surface soil at the Site is fill material that consists primarily of silt and sand with smaller amounts of clay, gravel, and brick. The fill is underlain by native soils at depths ranging from approximately 0.5 to 3 feet bgs. The native soils consist of gray silty clay with brown mottling and abundant weathering and/or contraction openings throughout. These soils extend to at least 11 feet bgs. Soil borings advanced around the perimeter of the former gas holder location in 1992 encountered strong, tarry odors, and free tar was observed from 6 to 8 feet bgs. Tar staining was observed in soils below the groundwater level in soil borings installed along the western border of the Site. During subsequent sampling, PAHs were detected in the tar and soil. Metals, cyanide, VOCs (including benzene and chlorinated solvent compounds), and SVOCs (primarily PAHs) were detected in soil samples collected during investigations at the Site. As explained below, soils at the Site were remediated in 1997 and 2001.

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#### **Sediment Characteristics**

No information has been found concerning sampling of sediments in the North Shore Channel near the Site, but sediment samples collected farther downstream in the Chicago River system contain high levels of PAHs, PCBs, oil and grease, and metals. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

#### **Investigations and Remediation Previously Performed**

Soils in the northern portion of the Site were removed to address chlorinated solvent impacts from releases on the adjoining property in 1997. Some of the solvent-impacted soils left in place had levels of contamination that exceed the Illinois residential standards, so land use in this portion of the Site is restricted. Further site investigations led to the excavation of approximately 26,000 tons of soils impacted with lead and PAHs in 2001 and 2002. The tar-stained soils observed below the groundwater level in soil borings installed along the western border of the Site were not removed during this remediation effort, which was completed under the Illinois EPA Site Remediation Program.

### 8. Pitney Court Station Former MGP Site

#### **Location and Current Use**

The Pitney Court Station Former MGP Site (the "Site") is located at 3052 Pitney Court, at the intersection of Archer Avenue and Pitney Court in Section 29, Township 39 North, Range 14 East, Cook County in the City of Chicago. The approximately 4.8 acre Site is bounded to the northwest by Archer Avenue, to the northeast by Pitney Court and 31<sup>st</sup> Street, to the east by Benson Street, to the south by Chicago Plating, Inc., a chrome plating facility, and to the west by the South Fork of the South Branch of the Chicago

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River. The Peoples Gas Light and Coke Company ("Peoples Gas") owns the Site, which is currently vacant and which will be developed for residential use. The land use in the surrounding area is mixed residential, industrial, and commercial.

#### **History and Former Operations**

The Site was formerly used as a production and storage facility for manufactured gas. The Universal Gas Company began gas manufacturing operations at the Site in 1897. Peoples Gas leased the facility from Universal Gas in 1907 and purchased the Universal Gas Company in 1914. Production operations at the Site were discontinued in 1921 and the facility was dismantled in 1938. MGP structures on the Site in 1938 included a 3 million cubic foot gas holder, a 350,000 cubic foot relief gas holder, one 514,000 gallon and three 180,000 gallon oil tanks, various sized tar tanks, a coal shed, purifying house, scrubber and condenser house, a tar well, and a tar separator. Peoples Gas sold the property in 1952 and re-purchased it in July 2005. The property had a number of owners and was used for a variety of purposes between 1952 and 2005.

#### **Groundwater Characteristics**

Groundwater has been detected at the Site at depths from 4 to 9 feet below ground surface ("bgs"). Based on water level measurements, the groundwater flow is westerly toward the South Fork of the South Branch of the Chicago River. An interlocking sheet pile wall is located along the western side of the Site, adjacent to the South Fork. VOCs, SVOCs (including PAHs), metals, and cyanide have been detected in groundwater samples collected during investigations conducted at various times from 1995 through 2002.

#### Soil Characteristics

Three stratigraphic units have been identified at the Site: a fill unit, a sandy silt unit, and a silty clay unit. The average thickness of the fill is 6 feet, with a maximum thickness of 12 feet. The fill consists primarily of sand with smaller amounts of gravel, brick, wood, concrete, silt, and clay. The sandy silt unit that underlies the fill is mostly silt with some

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very fine sand and traces of clay and gravel. This unit was encountered from 4 to 12 feet bgs and has an average thickness of 4 feet. The silty clay unit that underlies the sandy silt unit consists of a medium stiff to stiff silty clay with low plasticity. Visible evidence of MGP impacts (including coal tar, sheen, and/or staining) was observed at depths below the groundwater level in several soil borings and test pits during site investigations. Metals (arsenic and lead), benzene, ethylbenzene, toluene, and a number of PAHs were detected at concentrations exceeding Illinois Tier 1 screening levels in soil samples collected at the Site.

#### **Sediment Characteristics**

Sediment samples were collected in the South Fork near the Site for the U.S. Army Corps of Engineers ("USACE") Chicago District in 2004. These samples contained PAHs, other SVOCs, VOCs, PCBs, oil and grease, and metals. An oily sheen was observed in sediments at two locations near the Site. Many of the reported concentrations of total and individual PAHs, PCBs, and metals in sediment samples collected in the South Fork are greater than the probable effects concentrations ("PECs") established for these substances. The USACE findings are consistent with results obtained in earlier studies conducted by the Illinois EPA in 1994, the Metropolitan Water Reclamation District in 1995, and the USEPA in 2000.

#### **Investigations and Remediation Previously Performed**

Conditions on the Site property have been investigated by a number of parties since 1990. These investigations have reported subsurface impacts (including coal tar, staining, sheens, and odor) at various locations across the Site, in some cases below groundwater levels. An investigation performed in 1990 noted stained soils in conjunction with UST removal activities, and an investigation performed in 1995 concluded that the Site was impacted by past operations on the basis of detections of benzene and PAHs in soil and groundwater. Surface soil staining and a sheen on ponded surface water were noted in 1998, and tar was observed at depths of up to 20 feet (below the water levels in the

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ground and the adjacent river) in 2000. Additional site investigations conducted for Peoples Gas from 2002 through 2006 also found tar at varying depths. Site remediation activities began in 2005 and are continuing. These activities generally involve excavation and off-site disposal of MGP-impacted materials. To date, impacted materials (including tar-saturated material) have been encountered and removed at levels above and below the water table from the center of the Site and along the South Fork, directly behind the sheet pile river wall.

During multiple site visits, Burns & McDonnell investigated the quality of the sediment in the South Fork adjacent to the Site for Peoples Gas in 2006 using a tar-specific green optical screening tool ("TarGOST") device. Several surface sediment samples collected in the South Fork adjacent to the Site had high fluorescence readings, indicating the presence of coal tar impacts. In addition, hollow stem auger sampling of sediments was also conducted. Tar-saturated sediment was observed in several river boring locations, primarily at the sediment/river bottom interface.

#### 9. South Station Former MGP Site

#### **Location and Current Use**

The South Station Former MGP Site (the "Site") is located near the intersection of Eleanor and Loomis Streets in Section 29, Township 39 North, Range 14 East in Chicago, Cook County, Illinois. The Site encompasses approximately 8.3 acres, with approximately half of the Site owned by The Peoples Gas Light and Coke Company (two parcels comprising 4 acres) and half owned by the City of Chicago (two parcels comprising 4.3 acres). The Site is bounded to the northwest by the South Branch of the Chicago River, to the southeast by Eleanor Street, and to the northeast by Loomis Street. Parcels A and B are owned by Peoples Gas and occupied by a storage warehouse constructed in the early 1970s. Parcels C and D, owned by the City of Chicago, are currently vacant but will be developed into a City park. Land use near the Site is predominantly industrial and residential, with some residences located across Eleanor Street.

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#### **History and Former Operations**

The Peoples Gas Light and Coke Company ("Peoples Gas") built the plant and storage facility in 1874. The Site was used for gas manufacturing operations from 1874 to 1941, when plant operations shifted to the use of natural gas. The plant produced gas by various manufacturing processes over the years: coal gas (1874–1890); carbureted water gas (1890–1934); and oil gas (1934–1941). The plant was used as a reformed natural gas facility from 1941 to 1961. The primary MGP structures included various buildings, a 4.3 million cubic foot gas holder, a 104,000-cubic foot relief holder (which also served as a tar tank at one time), a 500,000-cubic foot relief holder, seven aboveground oil tanks, tar tanks, two large tar wells, four light oil tanks, four gas condensers, pumps and scrubbers, an underground oil tank, and three underground gas holders. The plant was retired in 1961 and the MGP structures were dismantled during the mid to late 1960s. A portion of the Site was later utilized by a wood pallet manufacturing facility.

#### **Groundwater Characteristics**

Groundwater has been detected at the Site at depths ranging from 8 to 12 feet below ground surface ("bgs"). The apparent direction of shallow groundwater flow is northwest, toward the South Branch of the Chicago River. Groundwater samples collected in 1998 and 1999 contained cyanide, metals, VOCs (including TCE, benzene, and naphthalene), and SVOCs (including PAHs). Most of these chemicals were also detected in groundwater samples collected in 2004 after much of the recent remediation had been completed.

#### Soil Characteristics

Surface soils at the Site consist of silts and clays, which are underlain by glacial drift deposits extending to the bedrock layer. Subsurface investigations were performed during Site investigation activities from 1999 through 2004. Subsurface impacts (free product, coal tar, sheens, strong odors, and staining) were observed in soil borings during

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sampling efforts. Impacted soil was encountered to depths greater than 20 feet below ground surface beneath parts of the Site. Metals, cyanide, PAHs and other SVOCs, and VOCs were detected in soil samples taken in 1999. Chemicals found at concentrations exceeding the Illinois Tier 1 screening levels include benzene, ethylbenzene, naphthalene, styrene, toluene, TCE, xylenes, and chromium. Because soils were not excavated beneath the majority of the building footprint and in other areas of the Site, soils with notable coal tar impacts remain in place.

#### **Sediment Characteristics**

The Site is adjacent to the South Branch of the Chicago River. Sediment samples were collected from a location in the South Branch adjacent to the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

#### **Investigations and Remediation Previously Performed**

Conditions at the Site were investigated for Peoples Gas from 1999 through 2004, and remedial actions were performed from 2001 through 2006. Remediation activities involved removal of contents from underground tanks, demolition and removal of buried structures, excavation of soil to a maximum depth of approximately 30 feet on land, and dredging of impacted sediments from the river. Dredging was necessary to address tarimpacted sediments located near a tar seep and a monitoring well that contained free product. A post-remediation investigation of sediments in the river adjacent to the Site found evidence of residual tar impacts.

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#### 10. Throop Street Former MGP Site

#### Location and Current Use

The Throop Street Station Former MGP Site (the "Site") is located at the intersection of South Throop Street, South Eleanor Street, and West 25th Street in Section 29, Township 39 North, Range 14 East in Chicago, Cook County, Illinois. The Site encompasses approximately 15.5 acres and is bounded to the north by the South Branch of the Chicago River, to the south by South Eleanor Street and West 25<sup>th</sup> Street, to the west by Loomis Street, and to the east by Commonwealth Edison. The western portion of the Site was part of the former South Station but is included in the Site because of the common ownership and use. Land use near the Site is predominantly industrial and residential. The Site is currently owned by Brandenburg Demolition, Inc. ("Brandenburg") and is used as a storage yard for equipment and debris. Office buildings, tractor trailers, cranes, construction material, and debris associated with the demolition company are located onsite. Much of the Site is covered in crushed rock and gravel. Although environmental conditions at the Site have not been thoroughly investigated, surface staining has been observed; this staining may be associated with Brandenburg's operations or with earlier manufactured gas operations.

#### **History and Former Operations**

The Throop Street Station was constructed in 1892 by Consumers Gas Company as a gas holder facility. MGP structures at the Site included three gas holders (with capacities of 4.2 million, 5 million, and 10 million cubic feet) and associated underground water tanks, aboveground tar and oil tanks, exhaust holders, and boiler and pump houses. The Peoples Gas Light and Coke Company ("Peoples Gas") acquired the Site in 1897. The Site operated as a manufactured gas storage and distribution facility. In 1944, a mixing plant was constructed to mix manufactured and natural gas on-site. The 4.2 million cubic foot gas holder was retired from service in 1954 and dismantled in 1957. The 5 million cubic foot gas holder was retired by 1963 and the 10 million cubic foot gas holder was

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retired in 1971. The station was closed in 1972 and sold to Brandenburg in 1981. All above ground structures associated with the gas holder facility have been demolished.

#### **Groundwater Characteristics**

Two soil borings were installed in the southwest corner of the Site by Burns and McDonnell in 2002 on behalf of Peoples Gas. Black, stained soils exhibiting strong odors were observed beneath the water table and a sheen was observed on the groundwater surface. No ground water samples were collected as part of this investigation and no other site investigation activities have been conducted on-site. The general direction of groundwater flow at the Site is expected to be north toward the South Branch of the Chicago River. Site-specific groundwater quality data is not available at this time, but contaminants likely to be present in groundwater at the Site include BTEX, PAHs, metals, and cyanide.

#### Soil Characteristics

Limited site investigation activities were conducted in the southwest corner of the Site by Hygieneering, Inc., ("Hygieneering") in March 2001 and by Burns and McDonnell in June 2002. No subsurface investigation activities have been conducted at the remainder of the Site. The Site is underlain by the Pleistocene-aged Carmi Member of the Equality Formation. The soils on the property immediately west of the Site (the South Station Former MGP Site) are silts and clays; similar soils are likely present at the Throop Street Site. In the southwest corner of the Throop Street Site, Hygiengineering reported the presence of blue-green soils, strong odors, and elevated organic vapor readings in soils. Burns and McDonnell's investigation revealed the presence of black staining, odors, elevated organic vapor readings, and petroleum sheen on the groundwater surface. Analytical results for soil samples collected in the southwest corner of the Site indicate the presence of elevated concentrations of PAHs. No other soil sampling is known to have been conducted at the Site and no additional information regarding site-specific soil characteristics is known at this time. Other contaminants likely to be present in Site soils include BTEX, PAHs, metals, and cyanide.

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#### **Sediment Characteristics**

The Site is adjacent to the South Branch of the Chicago River. Sediment samples were collected from a location in the South Branch approximately 750 feet downstream of the Site (adjacent to the South Station Former MGP Site) in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances. Burns and McDonnell investigated the conditions in the sediments adjacent to the Site on behalf of Peoples Gas in 2006. Tar-like impacts were observed in a number of the sediment borings.

#### Investigations and Remediation Previously Performed

The on-site environmental investigations performed to date have been limited to a few borings in the southwest corner of the Site in 2001-2002. Conditions in the river adjacent to the Site were investigated by installing borings at selected locations in 2006. Evidence of tar impacts (e.g., tar globules, sheen, and odor) was observed at a number of sediment boring locations. Data obtained with a tar-specific green optical screening tool ("TarGOST") device indicate the presence of coal tar at several locations, and laboratory analysis of sediment samples found high levels of PAHs.

No investigation or remediation of the land portion of the property has been performed to date on behalf of Peoples Gas.

#### 11. Willow Street Station Former MGP Site

#### Location and Current Use

The Willow Street Station Former MGP Site (the "Site") is located west of the intersection of Willow Street and North Kingsbury Street in Section 32, Township 40

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North, Range 14 East in the City of Chicago, Cook County, Illinois. The Site, which is approximately 3.9 acres in size, is no longer owned by The Peoples Gas Light and Coke Company ("Peoples Gas"). The Site is bounded on the west by the North Branch of the Chicago River, on the east by the Chicago, Milwaukee and St. Paul Railroad (which now occupies the right of way formerly occupied by North Kingsbury Street), and on the north by Marcey Properties and to the south by property owned by GI North Property, LLC. Most of the Site (approximately 3.3 acres) is owned by GI North Property, LLC and used as a laydown area for steel. The rest of the Site (approximately 0.6 acres) is part of the property owned by A. Finkl & Sons Company. The land to the east of the Site (across the railroad tracks) is currently owned by Marcey Properties, LLC ("Marcey") and occupied by retail businesses. The Marcey property includes parcels formerly owned by Peoples Gas that were parts of the Willow Street MGP site and the Hawthorne Avenue MGP site. Because of their common current ownership, the portion of the Willow Street Station MGP site located east of the railroad is addressed as part of the Hawthorne Avenue Station MGP site.

#### **History and Former Operations**

Ogden Gas Company constructed the original station between 1895 and 1897. A coal gasification plant was operated on-site to produce carbureted water gas. Peoples Gas began leasing the Site in 1907 but the facility was shut down from 1910 to 1921. Structures present at the Site from about 1910 to 1935 or later included two gas holders (420,000 cubic feet and 100,000 cubic feet), two oil tanks (73,000 gallons and 70,000 gallons), two tar wells, a tar tank (158,000 gallons), a coal shed, a purifying room, hydrometers, generators, and an office. Most of the above-ground structures were dismantled in 1938 and the original gas holders were dismantled in 1944. Portions of the Site were leased or sold to other businesses between 1944 and 1953. Peoples Gas constructed a new gas holder (17 million cubic feet) and began distributing natural gas on the Site in 1953. The new gas holder was closed in 1972. Since 1988, the Site has been owned and managed by the current owners (GI North and A. Finkl & Sons).

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**Groundwater Characteristics** 

Groundwater has been encountered at depths from 3 to 16 feet below ground surface ("bgs") and appears to be perched. The available information indicates that groundwater generally flows toward the river, but flow directions are likely determined in part by buried foundations and former roadways. Evidence of MGP impacts observed during site investigations includes sheens and free product. Groundwater samples collected during site investigation activities contained VOCs, PAHs, PCBs, metals, and cyanide.

Soil Characteristics

Site soil consists of silty clay overlain by fill material. The fill material consists of sandy clay, crushed brick, concrete, wood fragments, cinders, coal, and glass fragments. The native silty clay was encountered at depths of 2 to 20 feet bgs. Lenses of gravel, sand, and silt have been observed in the silty clay unit. Staining has been observed in the soils, mostly from the surface to 8 feet bgs. Tar impacts were observed at depths from 4 to 17 feet bgs at one location, and tar-saturated soils have been documented from 12 to 16 feet bgs at another location. Soil samples collected during site investigation activities contained VOCs (mostly BTEX), SVOCs (mostly PAHs), PCBs, cyanide, and metals.

**Sediment Characteristics** 

Sediment samples were collected from a location in the North Branch of the Chicago River approximately 800 feet downstream from the Site in 2000 as part of a USEPA study of sediment contamination. These samples contained high levels of PAHs, PCBs, oil and grease, and metals; the concentrations of these substances generally increased with depth. Many of the reported concentrations of total and individual PAHs, PCBs, and metals are greater than the probable effects concentrations ("PECs") established for these substances.

**Investigations and Remediation Previously Performed** 

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Site investigations were conducted on behalf of Peoples Gas from 2002 through 2004. A small area of PCB-impacted soil was remediated by excavation in April 2004. More comprehensive remedial operations conducted at the Site from 2004 to 2006 involved excavation to a maximum depth of 20 feet bgs and off-site disposal of approximately 130,600 tons of impacted material. During this remediation, tar was observed along the sheetpile wall that separates the Site from the river and impacted materials were left in place at the limits of the excavations. Conditions in the river adjacent to the Site were investigated by installing borings at selected locations in 2006. Tar was observed on the augers at one boring location in the river and a tar-like odor was noted at another. Data obtained with a tar-specific green optical screening tool ("TarGOST") device indicate the presence of coal tar at several locations along the sheetpile wall, generally at depths of 6 to 10 feet below the sediment surface. Laboratory analysis of sediment samples collected at these locations found high levels of PAHs.

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